**Physics 12 Outline**

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Web site: <http://physics-pages.wikispaces.com/>

Text: [Physics, Principles with Applications](http://cwx.prenhall.com/bookbind/pubbooks/giancoli/), third edition, Douglas C. Giancoli

Labs: Physics 12 Student Laboratory Manual, Ron Somers

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| Topic | Pre-reading in Text | Binder Index of Student Notes and Homework | Labs |
| **Introduction** | **Chapters 1** | **Fill in Page Numbers** |  |
| What is Physics? | p1-6 |  |  |
| Scientific Measurement | p7-12 |  | Oscillating Spring |
| **Kinematics (describing motion).** | **Chapters 2 and 3** |  |  |
| Velocity, time and acceleration | p16-34 |  |  |
| Vectors | p43-52 |  | Investigation 3 |
| Projectiles | 53-59 |  | Investigation 1 |
| **Dynamics in 2 Dimensions** | **Chapter 4** |  |  |
| Newton’s Laws | p65-72 |  |  |
| Vector Forces | p74-89 |  | Block on Slope |
| **Circular Motion and Gravitation** | **Chapter 5** |  |  |
| Circular Motion | p97-100 |  | Investigation 5 |
| Gravitation | p106-114 |  | Investigation 6 |
| Gravitational Energy | Not in Text |  |  |
| **Work and Energy** | **Chapter 6** |  |  |
| 2-D Work | p124-128 |  |  |
| Forms of Energy | p129-134 |  |  |
| Conservation of Energy | p135-140 |  | Roller Coaster |
| Power | p141,142 |  | Kettle |
| **Momentum** | **Chapter 7** |  |  |
| Newton's Second Law Revisited | p149-155 |  |  |
| Conservation of Momentum | p156-160 |  | Investigation 2 |
| Centre of Mass | p161-166 |  |  |
| **Rotational Equilibrium** | **Chapters 8 and 9** |  |  |
| Torque | p178-180 |  | Jack |
| Statics | p205-211ws |  | Investigation 4 |
| **Electrostatics** | **Chapters 16 amd 17** |  |  |
| Electric Charge | p416-419 |  |  |
| Coulomb's Law | p420-430 |  | Investigation 7 |
| Electric Potential (Voltage) | p440-443 |  | Investigation 8 |
| Point Charge | p445-446 |  |  |
|  |  |  |  |
| **Electric Currents** | **Chapters 18 and 19** |  |  |
| Battery and Current | p459-462 |  |  |
| Ohm's Law | p463-464 |  | Resistivity |
| Electric Power | P468-470 |  |  |
| Kichoff's Rules | 485 |  |  |
| Resistors | 480 |  | Investigation 9 |
| Terminal Voltage | p481-483 |  |  |
| **Electromagnetism** | **Chapters 20 and 21** |  |  |
| Magnetic Fields | p505-506 |  |  |
| Magnetism is Caused by Moving Charge | p507-510 |  |  |
| Magnetic Force | p511-514 |  | Investigation 10 |
| Applications | p516-523 |  |  |
| Ampere's Law | P524-527 |  | Investigation 11 or 12 |
| Induction | p538-543 |  |  |
| Back Emf | p546 |  | Investigation 13 |
| Transformers | p547-549 |  |  |

Marks will be awarded as follows: up to 10% for informal demonstrations of physics knowledge and attitudes (participation) and homework/binder checks, up to 25% for laboratory reports, up to 10% for quizzes and up to 65% for tests.  Any student who copies or lets another student copy test or laboratory work will result in a 0 on that paper.  Late assignments will be assessed a 20% penalty per class if not submitted at the start of class on the due date.

Class mark/Final exam: 80%/20%

Copies of old provincial exams with answer keys can be found on the ministry website at: <http://www.bced.gov.bc.ca/exams/search/> or from Mr. Klaassen’s website at: <http://physics-pages.wikispaces.com/Physics+12>

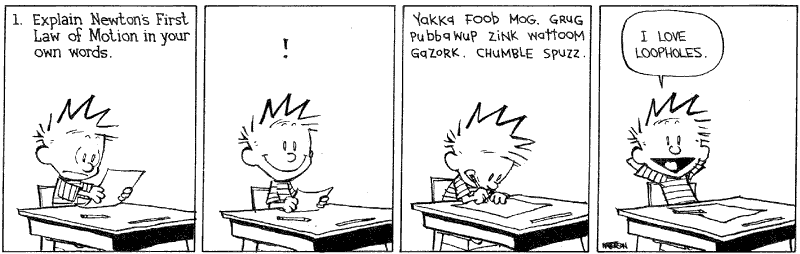
**Expectations:**

Students must attend and fully participate in all classes.  When absent, a signed note from a parent or guardian is required. Students missing tests or quizzes will receive a 0. Late students will be reported to the administration. Calculators used for games, cell phones, whiteout and mp3 players will be confiscated.

Have a one inch binder for physics and keep it organized.  This handout should be at the front and all homework and notes should be kept in order with page numbers listed for binder checks. Each term, there is a maximum of 2 incomplete homework assignments for the binder check. After that each incomplete assignment will result in a 0.5% loss of marks up to 5 % per term.

Students are expected to bring their own text and supply a sturdy cover, their lab manual, a three ring binder, a large supply of paper and a scientific calculator.  Graph paper can be bought at a stationary store, printed out using a table or borrowed and photocopied.

To help students help each other and to send reminders, I have a web page [(http://physics-pages.wikispaces.com/](http://physics-pages.wikispaces.com/)) join code RNKKNNC and a work [facebook](http://www.facebook.com/home.php#!/profile.php?id=736844885) page.(adam klaassen teach) Feel free to post questions(better than messaging) and answers as I will give credit to students who help each other. Do not leave problems to the last minute, as you may not receive an immediate response.  Students who help others in class and through posts will be awarded participation marks.



(Watterson, Bill http://www.ucomics.com/calvinandhobbes/index.phtml)